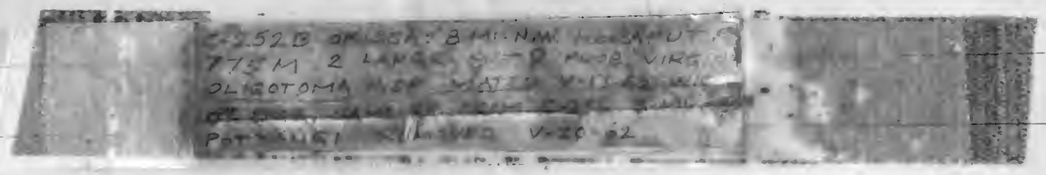
C- 250 - C-376

C- 610 - C-615

1-25

Capt. L. N. C. JESUDASON INDIAN NAVY
Konowo Capt Lowellen

Hedge THEVETIA (in Madras)



C-252 B 2 adult ♀ + 1 adult ♂ large n. sp. Oligotoma. Male removed later
GREENIANA ANOMALEMBIA

C-252 C 2 adult ♀ of large sp. Oligotoma ← probably virgin in this culture so adult male (probably conspecific) from C-256 3 mi S.E. Pottangi was added on V-17 and removed on V-20-62 (

C-252 contains many species, including a shining sp. with ♀ having orange prothorax (1♀ collected, 1 remains virgin?) C-252 A contains one ♀ of this species

2

CULT 250 M.P.: 4 Mi N. JAGDALPUR, 450 M, II-2-62
Low rocky hill at edge of sal forest. Rocks red stone shaded by trees and shrubs. Soil slightly damp. Small embiid under small stones.

CULT 251 M.P. ORISSA: 24 MI. N. JEYPORE, 500 M II-2-62
Sal forest (thinned) on rolling plain. Many termite mounds, some with embiid tunnels. Small embiid collected on slightly mossy sides of ditch in laterite soil. Tunnels follow crevices. Many adult ♂♀ collected. Male tunnels with fresh, open blue-white silk on surface. 2♂ collected at surface. Some ♀ had dead ♂ in tunnel. A few first instar present. TOXONEMBIA ? N. SP.

CULT. 252 ORISSA: 8 MI. N.W. KORAPUT, 775 M II-2-62
Crest of N.W. slope of Eastern Ghats. Evergreen forest region with wild mango trees. Collected in cut-over area now overgrown with low dense second growth. This culture contains 1-2 Oligotomids spp collected in mango bark crevices and in splintered butts of saplings. OLIG. N.SP. NR SAUNDERSII.

CULT 253 Same place. Small embiid(?) collected under stones

CULT 254 ORISSA: 17 MI. S.E. KORAPUT, 820 M, II-3-62
Hilly, eastern ghat plateau (once forested, now cleared except for patches). Embiids in dry bark flakes of tree groups at Lutheran Mission. Mostly Mango
APOSTHONIA N. SP

CULT 255 ORISSA: POTTANGI, 840 M II-3-62
Open pasture + hill rice fields. Embiids in cracks of hard laterite road bank, lightly coated with moss and lichens 2 species (1 penult) other small. Weak culture.
Aposthonia

Oligotoma
n. sp. (very good)

Anomalembia

Scaphembia

Scaphembia &
Pseudembia (paradoxa group)

VI-25-63 large broad
of Scaphembia approaching ~~p~~ maturity

CULT 256 ORISSA: 3 MI. S.E. POTTANGI, 3,345 ft, II-3-62
Highest point on ghat road. Small fields in pass surrounded by brushy forest remnant. Well watered region. Embrids under rocks in semi-shade. 3 spp. 1 small black, 1 multicolor embrid, 1 oligotomid. Last under old trunks of yucca laid on ground.

CULT. 257 ORISSA: 3 MI. S.E. POTTANGI, 3,345 FT., II-3-62
Same place. One large ♀ + eggs under stone in sun. Tunnel not deep; eggs 1" down. No other seen.

CULT 258 ORISSA: SUNKI (13 MI. S.E. POTTANGI), 550 M II-4-62
Mixed, evergreen, low canyon forest (N.W. slope) dry season. Collected on small saplings, often slashed by woodcutters. This culture contains 1 large ♀, and her eggs (also a set from another nest). Her retreat was a rotted out branch hole from which sheet webs, violet in tone, covered with frass, radiated around smooth-bark sapling (6" diam., 5' above ground) in semishade. Eggs attached to web; naked, white.
In addition, several (about 6) robust, bicolorous nymphs were added from similar, but smaller ~~to~~ webs on another tree. Retreats for these were thin bark flakes.

CULT 259 Same slope. Contains 7-8 young prob same as latter O. greeniana

CULT 260 Same slope. Contains 2 sp.: Small black Aposthonia and 3 larger Oligotomas from bark and splintered stump ends.

DIED greeniana ?

C-262 ♀ ate only male on V-4-62
laying eggs V-5-62

C-262 Echinembia tesselata n. sp. + type of genus
Series offspring of 1♀ + ♂ collected in field Juv II-4-62
mat ♀ ate ♂ V-4-62, laying eggs V-5-62, offspring matured
in near unison during VI-63. Very sluggish in web
Antennae frequently eaten off.
Also series of O. humbertiana developed
Several adult, mated ♀ segregated VII-1-63
Culture alive but not thriving ~~VI~~ II-1-64

C-263 ceylonica
Echinembia

C-264
Oligotoma n. sp.
males maturing II-64

C-264 Oligotoma n. sp.
Echinembia
indica
1 ♂ Scaphembia

Oligotoma n. sp.
near pruthini

C-266 reduced to 4 adult ♀ + 1 ♂
males maturing IV-V-1963

Oligotoma n. sp.

CULT. 261 ORISSA: SUNKI (13 MI. S.E. POTTANGI) 550 M,
II-4-62 2-3 SP OLIGOTOMIDAE FROM BARK FLAKES +
Splintered ~~to~~ sapling butts. O. greeniana

CULT. 262 ~~ORISSA:~~ ANDHRA PRADESH: 6 MI. W. SALUR
285 M II-4-62 Near bottom of ghat grade.
Dry, low scrub similar to NE slope of Mt Abu
Collected under stones in shade of the low trees
and in splintered sapling butts. Small Oligotoma
+ opaque multicolor in each niche (1 penult ♂ of
opaque and 2♀) O. humbertiana

CULT 263 A.P.: 8 MI. S. VIZIANAGRAM, 30 M, II-4-62
Barren hill of crystaline rock rising in midst
of farm land. Vegetation very low scrub. Rocks
devoid of embiids except in one spot, N side of
stone ~~pile~~ pile - under stones under low bushes. 2-3
small embiids collected in small elastic silk webs.

CULT. 264 A.P.: 8 MI. N.E. TUNI, 30 M, II-5-62
Rocky hills rising from rolling farm land. Covered
with low, thorny evergreen brush. Rocks crystaline,
deeply imbedded. Dull multicolor embiid and juv.
Oligotomids rare under stones, esp. in matted
~~mag~~ mango leaves under stones in adjacent Mango
grove. 1 black adult Apoathonia N.SP male collected
another matured V-18-62

CULT. 265 A.P.: PANGIDI, 15 MI. S.W. RAJAHMUNDRY, 20 M
II-5-62 Pale embiids prob Atalembia & Oligotoma
collected in palm trunks. Tunnels follow crevices
and retreat into deep holes. Some adult ♀s + young

CULT 266 Same place (wooded grounds of rest house
+ adjacent Mango Grove with bordering palms, conditions
dry) Oligotoma in soil at base of cacti, 6" deep
at times. Adult ♀s black.

CULT 267 A.P.: 5 MI. S.E. ASHWARAOPET, 100M, II-6-62

Patch of natural lowland forest on rolling ground Mixed species, some deciduous, many large vines. Much undergrowth; ground rather bare + sandy. Embiids tunnels rather common but embiids hard to find. This culture contains 1 adult ♀ of moderate large multicolor and two batches of eggs. Nests in low splinted stumps of dead saplings, also in rotting stumps. Tunnels lead into ground at side of stump. Eggs evenly, equally rounded at both ends, white, naked, attached to silk wall.

ECHINEMBIA N. SP. ? NR FLAVA

CULT 268 Same place. Several species from bark flakes and crevices. One very small, shining, tan species, a multicolor, etc. Small sp. could be a teratembiid

MINUSCULA

CULT 269 A.P.: 4 Mi. W. KHAMMAM, 100 M, II-7-62

Barren lava-heap hill with some granite. Low shrubs, rice grain fields surrounding. Collected several species under stones, some very small. 2 dark adult ♂ Oligotoma. 1 ♂ shining black with pale intersegments of thorax. Several pale small. Metembia

CULT 270 A.P.: 2 MI. W. NARKATPALLI, 300 M, II-7-62

High granite kopje. Low shrub-like trees between rocks. 2 Adult ♀ multicolor n sp. laying eggs. Several small ♂♂ could be Oligotoma. Some colonies in cracks of exfoliating granite boulders.

CULT. 271 A.P.: 10 MI. N.W. SADASEOPET 600M, II-8-62

Small ~~granite~~ rocky hill (with small temple atop) rising from eroded pendplain of grain fields. Lava rocks, few small trees. Very dry zone. Several species (1 very large) occuring under stones esp. in semi-shade. May not have collected largest sps. (only web in culture?) Interesting larger ten species ante penult.

1 ♂ collected IV-30-62

O. kumbertiana

Echinembia
Metembia →

C-273 Large tan seem to have died out
some small Oligotomids incl minuscula remain
V-22-62

Embolemmbia

CULT 272 MAHARASHTRA : 5 MI. E. INDAPUR

Arid, Deccan peneplain, low rocky escarpments barren grassland and grain fields. Collected under large stones (cut) piled along road. Some in light shade of roadside row trees. This culture contains several large opaque, multicolor ♀ and eggs. Tunnels very dense, white, retreats into black cotton soil cracks. Echinembia

CULT 273 Same place and niche. Several large tan juveniles and misc. small specimens minuscula

CULT 274 MAHARASHTRA: 3 MI. E. MAHABLESHWAR, 1250 M
II-14-62 Low evergreen forest resembling dense live oak at west edge of escarpment. Gets 300" rain in 3 months, then dry. This culture contains a fairly large ♀, black with red-brown prothorax. Found in stump crevice near ground, web ~~also~~ pure white.
APOSTHONIA N. SP.

CULT 275 Same place. No embiids but contains egg mass of Asymetrica. The colonies were under loose dead bark also extending or surfaces near crevices. Each ♀s web not extensive contains packet of eggs plastered against hard substrate. NOTE Next day added some reddish 1st instar and more eggs from vicinity of similar eggs. 1 dry ♀ with red prothorax in alcohol

CULT 276 Same place. Uniformly black ♀, same or similar to saundersii. Also ~~yo~~ 1st instar young. Eggs attached on sides to bark surface niche. Each egg separate loosely covered with food material. Several ♀ adults. One pale from ~~a~~ under stone. All in semishade

CULT 277 Same place. 2 small black ♀, some loosened eggs and 1st instar in small frass-covered webs on bark of small saplings in deep shade on trail to Lingmala Falls, in cyn near creek. Asymmetrica nearby.
APOSTHONIA N. SP.

Oligotoma mysorensis n. sp. based on single ♂ coll at light at Sirsi 600M II-16-62 (nigra group).

CULT 278: MYSORE: 10 MI. N. BELGAUM, 800M, II-15-62
ghat crest with mixed decid. + non decid. trees dry grass partially burned. Small Embiidae rare under stones. 1 adult male collected + several young cultured. (found large snake skin here)

METEMBIA

CULT. 279 MYSORE: 2 MI. N.E. HALIYAL, 550M, II-16-62
Dry deciduous forest, ground partially burned over. Low hills. Collected several tiny embiids in small tunnels under crystaline rocks on small knoll. Very dry conditions. Culture weak.

CULT. 280 MYSORE: 10 MI. S. HALIYAL, 500M II-16-62
Same type of decid forest but much higher, denser and with many bamboo clumps. 2 half grown, dull reddish multicolor collected under log, tunnels in matted leaves. Under another log a red-brown juv. Oligotoma (?) collected. Embiids very scarce. Dave saw none. Bark extremely dry, apparently unsuitable for embiids.

Near ~~Yellapur~~ we stopped in a patch of evergreen high forest resembling rain forest. No embiids seen after 2 hours of search in spite of ideal niches. This patch may be isolated in surrounding dist- inct deciduous forest.

~~Aposthonia sp.~~

CULT 281 MYSORE: TYAGLI, 500M, II-17-62
Dry evergreen forest in creek valley. Apparently devoid of embiids except for two cut sapling stumps (3" diam, 16" high) in shade of forest. Small species with tunnels heavily coated with frass culture contains only 1st + 2nd instar young which may not survive.

C-282 Asymmetrica ♀ — no males

C-283 eggs hatching III-30 1♀

C-285 1♂ + eggs II-19-62

maturing of V-10-62

CULT 282 MYSORE: JOG FALLS, 525 M, II-17-62

Lush cyn in evergreen forest 1 mi N of falls. Very deep shade, somewhat moist in spite of dry season. 2-3 spps of embiids in one culture. (1) a small black female (4 adults) with pale anci & tibiae in filmy webs on surface of broad-buttressed trees. webs thin, almost transparent sparsely frassed. Radiate on moss surface from denser center only slightly protected by crevice. (2) 1 mature larger specimen, uniformly tan in some niche may be distinct or nearly juveniles of above. (3) 1 small ♀ from tiny tunnels under bark flakes (hard). 1 pale male collected.

VIRGIN ♀ EMBOLEMBIA

CULT 283 MYSORE: 16 MI. N.W. SHIMOGA, 650M II-18-62

Very dry deciduous thorny jungle on flat ground free of stones. No trace of embiids except for 1 ♀ (mature?) under a freshly cut 6" log on ground. In web at surface probably due to dampness of cover

A. INDICA

CULT 284 MYSORE: 8 MI. N.E. TIRTHAHALLI, 675M, II-19-62

Evergreen forest in dry condition. Embiids very scarce This culture contains but one juv. Oligotoma, prob ♀ from split sapling stumps became asymmetrica ♀ mated with virgin ♂ from C-286

CULT 285 Same place. Two adult ♀ and several young from under hard bark flakes of large trunk. One empty colony of asymetrica also seen.

CULT 285 MYSORE: 10 MI. S.W. SHIMOGA, 600 M, II-19-62

1 adult ♀, several eggs + 1 young ♂ Oligotoma, prob FALCIS ♀ under log bark on ground her eggs noted attached here & there along tunnel in silk. Others in stump end. Area burned over deciduous forest near impounded lake. 1 larger juv from collected webs at twig end.

A. INDICA

C-286 Penult ♂ become asymmetrica → C-286

mated with ♀ from C-284 produced good culture

Embolembia

2nd generation flourishing 2-3rd instar

II-14-64

?

C-289 TAN N.GEN EX ♀s + EGGS
MAHARASHTRA: 2 MI. E. KONDHALI
I-29-62 HALF MATURE V-20-62

CULT 286 MYSORE: 10 MI. S.W. SHIMOGA, 600 M, II-19-62

Dry deciduous forest. 1 juv. from charred bark of stumps. Parent colony was large could be immat - No penult ♂ produced unique ♂ (virgin) of Embolembia

CULT. 287 ~~Same~~ Same place, Tiny species, incl. penult ♂ from under bark flakes and chips of fairly large tree. APOSTHONIA N. SP.

CULT 288 MYSORE: 10 MI. N. BELUR, 1025 M, II-20-62

Barren rocky (crystaline) ridge with scattered Euphorbia (Rock grows in cracks) Embiid tunnels common (two sizes) under loose stones when shaded. 1 small penult ♂ seen but lost. Culture contains only two small young and webs. May die out A. CEYLONICA

CULT 289 MYSORE: 15 MI. N.E. SOMWARPET, 960 M, II-21-62

Mountain forest with man-made grassy open spaces. Recent rain. Embiids very scarce (may indicate non-endemicity) under stones in semi-shade at edge of forest. 1 adult ♂ similar to, or saundersii, collected. Culture contains 1 or 2(?) juv. only EMBOLEMBIA

CULT 290 MYSORE: 8 MI. N.E. MERCARA, 1000 M, II-21-62

Exellent mountain forest with some recent thinning 1 juv embiid in splintered end of living sapling stump 5' high. Another under log in forest litter.

CULT 291 MYSORE: 5 MI. S.E. MERCARA, 1050 M II. 22-62

Very wet, coffee plantation with remnant, scattered forest trees. Those embiids (Oligotoma and Aposthonia) in mossy bark of fence posts and large trees.

Aposthonia n. spp.

C-293 1♀ mature crossed with adult ♂ asymmetrica from C-289 V-26-62. Latter preserved on V-28-62 mated?

CULT 292 MYSORE: 5 MI. S.E. MERCARA, 1050 M, II-21-62

Same coffee plot. These young embiids from crevices and bark flakes in vicinity of large webs of asymmetrica. These webs torn open by some animal, no adults present. Egg masses, all emerged, scattered in outer of old web. Attached to bark and in a matrix of masticated debris. Usually the large webs are on rather smooth-barked trees but in one case such webs occured on a mossy end of a 6" snag. The young embiids were more advanced (3rd instar) and their tunnels extended into green moss.

Apoasthonia n. sp.

CULT 293 MYSORE: 4 MI. S.W. SIDAPUR, 900 M, II-21-62

High natural forest, dry season conditions. Embiids scarce under hard bark flakes. Seems to be a medium sized Apoasthonia. Culture comprised about 6 juveniles. became asymmetrica ♀s VIRGIN ♀ EMBOLEMBIA

CULT 294 MYSORE: 12 MI. E. VIRAJPET, 850M, II-24-62

High dry semi-evergreen forest with bamboo clumps. Partially logged. Coffee zone. Only 1 juv ♂ with tiny wing buds. Prob Atalembia. Under old log imbedded in sand. (Large scorpion place) became Oligotoma asymmetrica ♂

CULT 295 MYSORE: 5 MI. W. HUNSUR, 850 M, II-24-62

Roadside shade tree bark, Tiny sp. and medium in bark cracks of fig. Countryside barren. Weak alt.

CULT 296 MYSORE: 5 MI. W. HUNSUR, 850 M, II-24-62

Granite ridge with thorn scrub, decid, yellow-flowered trees etc. Numerous rocks. dry conditions. Culture contains 1 pair penult pale species.

Parembia

C-297 MYSORE: 5 MI. W. HUNSUR, 850 M, II-24-62

Same place 1 tiny penult ♂ in rock crack (obtained after rock split open) Several young of embiid in black cotton soil crack under stone.

C-298 MYSORE: 8 MI. S.W. MANDYA, 700M, II-25-62

Barren granite hill in pasture land. Small embiid under stones, esp. in shade of large boulders Recent light rain. (Rock cutters followed us about)

ECHINEMBIA

C-299 MYSORE: 6 MI. N.E. RAMANAGARAM, 750M, II-25-62

Granite knoll with few shrubs and prosopus trees. Small embiid under loose stones, some recent rain.

ECHINEMBIA

C-300 MYSORE: 5 MI. S.W. BANGALORE, 800 M, II-25-62

Rocky tree-less knoll with shrubs in gullies Multicolor, shining embiid and eggs under stones. Eggs pure white, naked, in loose clumps, transported about by ♀ These at surface in web, just beneath stone. (Caught small python here) ~~Parembia~~ ?

TOXONEMBIA

C-301 A.P.: 6 MI. W. PALMANER, 725 M, II-26-62

Crest of Eastern Ghat. Low, dense evergreen jungle on rocky hills. Numerous stones on ground, slightly damp beneath. This culture - opaque, multicolor ♀s and eggs. These naked, loose clusters moved about by ♀

ECHINEMBIA

♂ + ♀ matured III-10-62

C-305A ♂ + ♀ mated and ♀ ate ♂ IV-10-62

Egg cluster laid III-25-62

Eggs hatched V-11-62

C-302 I. A.P.: 6MI. W. PALMANER, 725M, II-26-62

Some plant and niche. ~~Fly~~ Ting species, incl. adult ♀s, young, and penult ♂. Also possibly a medium species. ECHINEMIA

C-303 MADRAS: 12 MI. N. VELLORE, 300M, II-26-62

Rocky, brush-covered east slope of hill. Embiids rare except for this opaque, multicolor ♀ + eggs (some hatching). Seems to be same as #301

ECHINEMBIA

C-304 MADRAS: VELLORE, 220M., II-27-62

Rocky, barren hills surrounding Christian Medical College campus. No loose stones. Embiid (Oligotoma?) in rock crevice and webbing dry ferns between rocks. O. HUMBERTIAN

C-305A MADRAS: PERNAMBUT, 350M, III-4-62

Dry, rolling valley with granite rock surrounding hills. Large tunnels in leaf litter and bark of tree crotches and bark of dead branch ends and splits. This culture 1 penult ♀ + 1 antepenult male of large Atalembembia of acacia Lutheran Mission

C-305B same, but 1 juv ♀

C-305C same, but 1 juv ♀

REV M.H. GRUMM LUTHERAN MISSION

dis continued
X-1-63

C-306 MADRAS: TOPPUR, 350 M III-5-62
Ghat crest covered with thorny low forest on stoney ground. Embiids present but conditions hot and dry. 1- or more 1st instar in this culture.

C-307 MADRAS: YERCAUD, SHEVROY HILLS, 1300 M, III-6-62

Large Ficus on shore of lake near town and part of old, high, mtn. forest. Filmy tunnels extensively radiating on surface of bark and retreating under old cocoons, spider egg masses, and into crevices. Large n.sp. Oligotoma many males adult. Other stages present but there appears to be maturity in unison. Not seen on other trees in forest. Introduced?

C-308 MADRAS: SHEVROY HILLS, E. SIDE CAUVERY PEAK 1300 M, III-6-62 Coffee plantation next to patches of original forest. No embiids seen in latter forest. Smaller Oligotoma or Aposthonia under loose bark of girdled tree in coffee plot. Adult ♀ + eggs, some young and several late penult ♂.

OLIGOTOMA N. SP.

C-309 A+B+C MADRAS: 7 MI. S.W. AVAMASHI, 18 MI. E. COIMBATORE, 350 M III-7-62
Under quartz stones on reddish, sandy soil in semi shade of road- and field-side trees, shrubs, and Euphorbia. Each culture 1 adult ♀ (A) has loose egg clusters and tiny young of Parembia. (B) has same but only young 2nd instar with old adult ♀ Parembia. Surrounding country rolling fields

PAREMBIA

C-310 MADRAS: OOTACAMUND, 2200 M III-10-62
Native forest of evergreen, oak-like trees on N. slope Aposthonia all stages in mossy bark and mossy road banks in shade.

DIED Aposthonia n. sp.

C-311 MADRAS: OOTACAMUND, 2200 M, III-10-62

Apoecthonia in papery bark layers of large tree Rhododendron (as large as an oak with red flowers). Probably same as species in C-310

DIED

C-312 MADRAS: COIMBATORE 440M III-9-62
(Forest Research Cntr)

Juv. & Oligotoma on dry bark of small leguminous tree in forest institute. Also several spps. incl n. spp large Oligotoma and ~~sp~~ small spp latter all under small stone

C-313 MADRAS: OOTACAMUND 2200 M III-11-62 METEMBIA FEROX minuscula

Mossy-lichen bank amongst roots of tree in Botanical Garden Oligotoma. I searched in the natural forest on the N.E. slope of Mt. Dodabetta but found no trace of embiids

DIED

C-314 NILGIRIS: 7 MI. N.W. PYKARA, 6500 FT., III-12-62

Evergreen mtn forest in zone of tea zone. Numerous Rhododendrons mixed in. Small multicolor embiid with pale-tipped antennae common in mossy bark. Many adult ♀ & penult ♂ some eggs and young. Eggs rather large, laid singly.

DIED Apoecthonia n. sp.

C-315 NILGIRIS: 5 MI. S.E. GUDALUR, 5000 FT. III-12-62

Semi evergreen, dry forest. Embiids scarce. Several tiny reddish juv. found each singly under thick bark flakes. Several ♀ similar to C-314 added from other trees.

C-316 MYSORE: 2 MI. N.W. PUNJUR 850M III-13-62
(Place with stone carving under trees) Valley pasture with scattered large trees, nearby bordering hills covered with deciduous forest. Only one tunnel seen under many stones this contained one juvenile ♀ (in culture). VIRGIN ♀ OLIGOTOMA

C-317 MADRAS: 10 MI. N.W. SATYAMANGALAM, 570M, III-13-62 (Place on hairpin curve, elephant dung) Steep hillside with low evergreen forest scrub near base of hill. Oligotoma adult ♀ and several 3rd instar (from other nest) in stony banks covered with lichens and leafy debris. Metemblia ferox

C-318 S. INDIA: 7 MI. S.W. AVAMASHI, 350M, III-14-62
Same place as C-309 Numerous nest ♀ and juv ♂ ♀ (incl penult) of all-black Parembia webbing between large gravel and going into soil

C-319 Same as above. 1 adult ♀ of larger Parembia with orange prothorax and whiter epipleurae. In purple web. In same gravel as above.
PAREMBIA

C-320 Same place 2 Oligotoma juv. seem to be ♀s under 2 stones under row of Euphorbia

C-321 (Forest ~~station~~ Training Center) Coimbatore, S. India, 450 M, III-14-62

C-322 S. INDIA: COIMBATORE, 450 M, III-14-62
(Forest Training Center) Small stones in shade of small mesquite. 1 adult ♀ Parembia and 1 late penult ♂? ♀ seems to have orange prothorax.
Cyphocerca

C-323 C started from 1♀

C-322A S. INDIA: COIMBATORE (FOREST + AGRIC COLLEGE)
450 M III-15-62 THEVETIA

Atalembia ♀s and eggs in split trunks and limb bases of narrow-leafed shrub used as garden hedge. Large culture contains several adult ♀ and some eggs. 322 B ~~-C~~ contain individual ♀ and eggs. These are marked, white, transportable.
322 C Contains several ♀ + young

C-323A S. INDIA: COIMBATORE (above place) 450M III-17-62

Cyrtocerca ♀ in same niche as above but tunnels also connect with ground crack retreats Some males collected. Females attack one another and bite off appendages. Dead males found in tunnels almost entirely consumed (except wings.) All tunnels purple. ~~AT~~ CYRTOCERCA

C-324 S. INDIA: SETHUMADAI, ~~375~~ 350 M, III-19-62
3 Parembia ♀, one with eggs, under stones on grounds of rest house. Not far from hills covered with deciduous forest. Parembia

C-325 S. INDIA: SETHUMADAI, 350 M, III-19-62
1 robust ♀ with ten head and prothorax. Perhaps a large Oligotoma. Under stones on grounds of rest house. No eggs. Abdomen somewhat contracted

C-326 S. INDIA: SETHUMADAI, 350 M, III-18-62
Juv. Oligotoma under stones on ground of rest house at base of Annamalai Hills. 1♂ humbertiana
balance of culture combined with C-329

C-327 S. INDIA: TOP SLIP, ANNAMALAI HILLS
700 M, III-18-62
Virgin evergreen forest. Dry season. 1 Small embiid under bark flake. Small series of juv of large sp. under thin dry bark of dead sapling (1" diam) in heavy shade of forest.

C-328 A S. INDIA: SETHUMADAI, 450 M, III-19-62
Dry plantation of Prosopis juliaflora, 1½ mi airline S.W. of village and a little higher. Adjacent to rocky areas of deciduous forest.
Large embiids prob Trichembia setosa common in stone and crevices of dry bank. Old surface tunnels weathered, making colony inconspicuous. At times tunnels extend down earthen runways of termites.
Each nest consists of single refuge tunnel of dense silk ~~tube~~ in crack. Each contained an adult ♀ surrounded by loose eggs.
328 B, C, D, E. each contain 1♀ + eggs. PSEUDEMBIA

C-329 Some plus Oligotoma in stumps ends, some tunnels extending into soil. O. pruthii

C-330 S. INDIA: 3 Mi. N.E. TOP SLIP ANAMALAI HILLS
560 M III-19-62
1 juv. embiid under stone in shade of high decid. forest in creek basin.

C-331 S. INDIA: 10 MI. S. UDAMALPET, 450M, III-19-62
Base of Anamalai Hills. Rich, mixed, dry scrub trees and large Euphorbia (reminded me of Cape Region) Embids, possibly 2 kinds, collected under stones on sandy ground. Numerous 2-3rd instar of one species. Cyto-cerca

C-332A S. INDIA: 3 MI. S.W. CHINNAR (20 MI. S.W. UDAMALPET)
550 M III-19-62 (ANAMALAI HILLS)

Dry roadbank in steep hilly tract of deciduous forest. Very large fresh tunnels radiate on black lichen crust from 2 or 3 main tunnels. These retreat into flat area of very dense silk which then continues as a single tunnel 3-6" straight into the coarse granite gravel bank following a crevice or root. At end of each tunnel a large ♀ surrounded by 100 or so 2nd instar young rested. ATALEMBIA

C-332 B+C 1♀ and young (C was taken at 725 M) Highest observed colony at 875 M.
ATALEMBIA

C-333 S. INDIA: 2 MI. S.W. MARAYOOR, ~~13 MI. S.W. CHINNAR~~, ANAMALAI HILLS, 970 M (25 MI. N.E. MUNNAR OR 2 MI. S.W. MARAYOOR)

Evergreen forest. Embiid colonies (medium species) in bark crevices & live sapling. Some penult ♂♂ & young, ♀ is uniform black. O. FALCIS GROUP

C-334 S. INDIA: 8 MI. N.E. MUNNAR, ANAMALAI HILLS, 6200' EL III-20-62

Virgin evergreen mountain forest on ridge. Medium embiid, apparently all ♀ juv. + 2 adult, on mossy bank. tunnels radiate on surface in moss. Silk thin sparsely specked with frass. Tunnels retreat under loose bark flakes. One ♀ C-334B heavily parasitized.

2-3 tiny individuals may represent small sp.

DIED

C-335 S. INDIA: 7 MI. W. MUNNAR (2 MI. W. PALLIVASAL), W. SLOPE ANAMALAI HILLS, 1100 M III-21-62

High evergreen forest with ~~fe~~ ginger-like sup understory. Steep slopes and ravines 2 sp. in bark flakes Aposthonia has short, exposed, clean white web extending in retreat ♀ ferruginous + ~~black~~ tan.

DIED Aposthonia n. sp.

C-336. S. INDIA: 12 MI. W. MUNNAR. Same type of niche but lower and lusher 840 M

1 small penult ♂ only. ECHINEMBIA

C-337 S. INDIA: PERIYAR LAKE, 920 M, III-23-62

Evergreen forest in vicinity of semi-deciduous. Aposthonia with frost-covered webs on surface of bark of small trees. Retreats under bark flakes. Several Adult ♀ + ♂ and young. Webs heavily infested with Embiophila bugs

DIED Aposthonia

C-338 S. INDIA: PERIYAR LAKE, KERALA, 920M, III-23-62
Above place, not far from hotel. Some black Aposthonia plus 1 or more tiny species, including 1 genus of ↗.

C-339 S. INDIA: 5 MI. E. THENI, 350M, III-24-62
Exposed, barren, granite boulder hill. Small embiids - 3 or 4 - collected under stones at base
Maly be Metembia

C-340 S. INDIA: 2 MI. E. ANDIPATTI, 350M, III-24-62
Oligotoma ♀ under stones in shade of flat-topped Acacia at base of high granite hill
(Numerous rock breakers followed us)
saundersii

C-341 S. INDIA: 5 MI. N.E. SRIVILLIPUTTUR, 200M
III-24-62 Stone under Acacia + teak trees forming groves near irrigated fields. Not far from granitic hills covered with brush. Seems to be a pale species with paler prothorax and fore-legs

C-342 S. INDIA: 10 MI. N.W. MANUR, 120M, III-25-62
Several 3rd instar, genus? METEMBIA

C-343 S. INDIA: 5 MI. S.W. NANGUNERI, 125M, III-25-62
(Near Nambiar River bridge)
Flat land with scattered palms + agric fields
Not far from arid rocky hills. Collected in
grove of mango. Larger pale-pleural species
in crevices of mango limbs. Aposthonia under
stones. 1 ♂ in alcohol.

C-344 S. INDIA: DOHNAVUR, TINNEVELY DIST, 350' EL
III 26-62 (Mission compound)
Bark crevices and cracks, mostly of larger trees.
Esp. on branch butts and dead tree with loose
bark. Tunnels visible around scar, bluish, heavily
frass-specked. Each web contained 1 juv (same
as C-343) with pale epipleura. Seem to be
juv. ♀ only

C-345 Same place.
Under stones, logs, and other objects ~~on~~
ground. Small Apostharia with elastic, black-
frassed web, suggesting that of caterpillars,
very common. Culture also includes Oligotoma
from same niche. CEYLONICA

C-346 S. INDIA: 3 MI. S.E. TENKASI, 140M, III-28-62
Dry Agricultural land. 1 Oligotoma? ♀ with loose
eggs in bark crevice at base of giant fig.
Along road shoulder.

C-347 A-B S. INDIA: 3 MI. S.E. TENKASI, 140 M, III-28-62
Atalembia ♀s and egg clusters from bark crevices of base of giant fig roadside tree. Very little external web.

C-348 S. INDIA: 6 MI. W. NILAKKOTTAI, 190 M, III-29-62 (2 MI. E. BATLAGUNDU) Agricultural land with roadside trees and field hedges. One Cyrtocerca ♀ and young under stone near hedge.
CYRTOCERCA

C-349 - Some place under stone banded sp.
SAUNDERSII

C-350 - S. INDIA: KODAIKANAL GRADE, 1150 M, 4 MI. E OR BELOW PARVAT VIHAR, III-29-62
Low evergreen jungle. Embiids 3 spp. in mossy bark crevices of shaded tree trunks.
FALCIS GROUP

C-351 S. INDIA: KODAIKANAL GRADE, TIGER SHOLA, 1600 M, III-30-62 APOSTHONIA N. SP.
Low evergreen forest with large Rhododendron trees. Embiids very common in deep shade on bark of various types — bare bark, corky grooved, loose bark & dead saplings. Webs filmy, dotted with frass. Eggs to adults present (all stages)
DIED

C-352 S. INDIA: KODAIKANAL, 2000 M, III-30-62
Oligotoma in webs in depressions of lichen-encrusted, shaded granite fence post. Also in trunk of cypress tree (but these tunnels empty).

DIED

C-353 S. INDIA: 5 MI. E. TOP STATION, 2200 M, PALNI HILLS
30 MI. S.W. KODAIKANAL, III-31-62

Two species of Aposthonia in virgin mtn. forest patch (shola) in ravine. Small species, incl penult ♂ in dry bark flakes of sun-exposed marginal trees. Larger sp. with frass-specked surface tunnels leading beneath bark flakes, moss tufts, etc.

DIED

C-354 S. INDIA: PERNAMBUT, 350 M, IV-3-62

2 ♀ Atalembia in ~~a~~ moth burrows in limbs of garden trees, Mated ? SAUNDERSII
O. NR. PRUTHII

C-355 S. INDIA: 4 MI. S. THOPPUR, 340 M, IV-3-62

Patch of dry native forest at base of rocky hills Small embiid (Metembia ?) under large stones
n. sp. Oligotoma spatulata group no life XI-11-62

C-356 S. INDIA: MADRAS, IV-5-62

Narrow - ~~tif~~ leafed hedge Thevetia in garden of Lutheran Center, western edge of city. Young of large embiid in crevices, crotches of cut-off branches. Parent tunnels broad, frass-covered. Young in smaller tubes beneath these.

ECHINEMBIA

Note: Oligotoma ♀ observed biting off bits of dead leaf and swing head over to web wall and depositing the bit in the web

C-357 at Ghandi Memorial Base of palmyra palm 1♀
no eggs. Male introduced V-6-62 AM eaten by 7:30 PM
some eggs had been laid. culture thrived.
~~♀ later died of tachinid parasite~~
~~fly emerged~~

C-357 S. INDIA: MADRAS IV-9-62
1 Adult ♀ Atalembia from fibrous base of fan palm in natural thorn forest on S edge of town. Across from Engineering college. No eggs.

C-358 MADRAS IV-8-62

Small species – prob. minuscula – in bark cracks of park trees behind beach across from U. of Madras.
MINUSCULA

C-359 A MADRAS IV-9-62 SAME PLACE AS C-357
Several species incl. Cyrtocerca n. sp. under bark flakes of various trees.
C-359 B, C CEYLONICA

C-360 A MADRAS IV-9-62 Same place as 357
1 juv. Cyrtocerca ex bark flakes in each vial
C-360 B 1 JUV ♂ C-360 C 1 JUV C-360 D 1 JUV ♀
C-360 E Several Juv. CYRTOCERCA
3

C-361 MADRAS IV-9-62 Same place as 357
Embiids from bark flakes MINUSCULA

C-362 MADRAS IV-9-62 Same place as 357
Small sp. from dead palm leaf bases
ECHINEMBIA

C-362 MADRAS IV-9-62 Same place as 357
One brown adult ♀ and eggs under stone

C-363 MADRAS IV-9-62 Same place as 357
Misc spp. under stones HUMBERTIANA

C-364 H 1 virgin ♀
adult ♂ introduced AM IV-22-62
Eaten by PM IV-23-62
Eggs being laid by AM IV-25-62
large cluster 200-300
Eggs hatching AM V-18-62

C-364 A-C S. INDIA: MADRAS IV-9-62
Adult female and penult ♂ Atalembia
from bark on college campus (Loyola)
A. minuscula

C-365 S. INDIA: MADRAS: IV-9-62 Loyola college
Bark flakes appear to be dull multicolor
adult ♀ (2), adult ? Echinembia

C-366 S. INDIA: MADRAS (GHANDI MEMORIAL PARK)
IV-13-62 Mixed acacia, fig. etc, apparently
native flora This culture = Echinembia flava
in colony in dead leaves caught in folds of
palmyra leaf on young tree, leaf horizontal,
1 ft off ground, in shade. adult ♀ + 2♂
in alcohol. Many young including all stages
up to penultimate. ECHINEMBIA

C-367 S. INDIA: MADRAS (BOTANIC GARDEN)
IV-13-62 2 ADULT ♀ OLIGOTOMA + MIXED
young from slender-leafed hedge FRUTHII
+ MINUSCULA

C-368 S.INDIA: MADRAS (LUTHERAN YARD) SAUNDERSII
Ex branch butts and twigs of hedge (THEVETIA)
ceylonica group

C-369 S. INDIA: MADRAS (ELLIOTS BEACH)
minuscula from hard bark flakes
of cashew nut tree MINUSCULA

C-370 MADRAS (AGRI-HORTICULTURAL GARDEN)
Hedge branch butts. Mixed species including multicolor opaque similar to 365
O. SAUNDERSII

C-371 A.P. : TIRUPATTI, 132 M, IV-18-62
Lutheran Mission garden, mango grove and Thevetia hedge. All embiids except some of the multicolor in split stems of hedge as in Madras. The others under stone and log

C-372 A.P. : TIRUMALAI, 782 M, IV-19-62
Low scattered forest on extremly rocky red limestone formation. Recent heavy rain. Under large stone, numerous young 2-3rd instar, Echinembia. Result of from other stone Echinembiid

C-373 A.P.: TIRUMALAI, 782 M IV-19-62
above place and niche Oligotoma culture
Seems to be adult ♀ of good, large species
FRUTHILL

C-374 A.P. : TIRUMALAI, 120 M IV-19-62
Under large stone after recent rain web of single female in sandy soil several young captured ♀ probably deeper in soil. Lime stone formation soil sandy Open forest with new leaves.
SAUNDERSII

C-375 W. BENGAL: CALCUTTA IV-4-62
Alipore Zoological Garden. Coarse bark of large dead, standing tree. Embiidae in obscure, frass-covered tunnels, visible at edges of bark flake, extending beneath flake as pure white, frass-

O. falcis group →

free, dense, elastic web. Each contained large cluster of rather small, naked eggs. One nest had first instar. Female with pale abdominal epipleura guards eggs. Pseudembia paradoxa

C-376A CALCUTTA - BOTANIC GARDEN V-20-64
376B Misc species Oligotomidae in dry bark of scattered trees - not remnant forest.

Aposthonia n. sp.

" indica

O. gruniana

C-610 Echinembia sp.
Collected by Aanthasubramanian
Mysore, Tunga R., Shimoga
One female with cluste of eggs (naked) VI-26-63
~~a few~~ na hatching VII-15-63
Adult males collected

C-611 Cyrtocerca iwasai (Davis) topotype
Mysore: Tunga R., Shimoga (Aanthasubramanian)
♀ and 3rd instar VI-26-63
nearly mature II-1-64

C-612 Bulocembia
Laos: 16 Km. S. Tha Teng Bolovens Plateau
3400' Stop 39 #1 on tree 21-VII-60
5 ♂♂ 8 ♀♀ ♂♂ with first wing pads XI-20-60
(R.E. Leech)

C-613 Eosembia variana ?
Hong Kong W. base Tai Mo Shan
New Territories VIII-15-61

C-614 *Aposthonia oceania* Ross
Oahu Area Hta Forest Res.
~~XII~~ 28-62

C-615 *Aposthonia oceania* Ross
Molokai: Kainalu 1500-2000 ft El
III-9-63 (D.E. Hardy
Under lichens and moss on bank
Metrosideros semi-wet area

Numbertiana Records. Agric College Coimbatore
all males

At light	Triplicane	4-III-07	(Y. R. RAO)		1♂
Coimbatore	18-I-15	(C.K. SUBRAMANIAM)			1♂
"	23-IV-13	(FLETCHER)	at light		1♂
"	29-V-13	"	"	"	"
"	28-IX-13	"	"	"	"
"	27-X-13	(PONNIAH)			
"	30-IX-13	(FLETCHER)	"	"	"
"	26-I-13	(Y.R. RAO)	"	"	"
"	(College Farm)	13-11-16	(C.V.R)		
"	8-X-12	(A.G. RAMASWAMIAH)			"
Beeravalli,	Bellary Dt	VIII-10-IX-13	(C.N.)		"
Coimbatore	22-X-12	Y.R.RAO			"

Embia rabaulti Navas type lost in Berlin

"Spiti Gharry (choles Angl.)" V. (G. Rabault)

Gharry may equal GARHI a word for village
This could be SPINAWARAI a village 9 Mi. W. of
Kohat, N.W. Frontier of W. Pakistan.